

F O R U M

Cytologist supreme

Richard Fifield

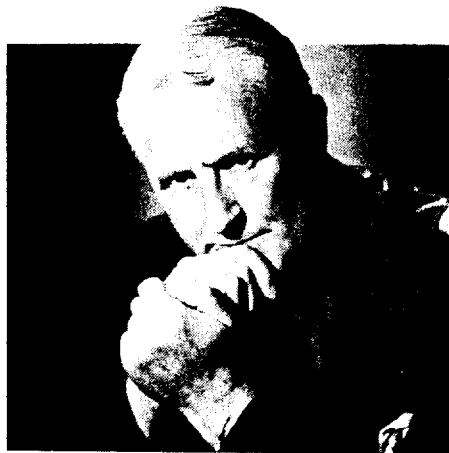
CYRIL DEAN DARLINGTON, one of Britain's most versatile yet controversial biologists, died on 26 March. Born in 1903, he gained a London BSc at Wye College in 1923. He subsequently joined the John Innes Horticultural Institute, and worked initially with the pioneering geneticist William Bateson. As a young researcher, Darlington was something of a whizz-kid and won renown for his work on the activity of chromosomes during cell division. His colleagues nick-named him the Copernicus of cytology because he brought order into the study of the cell nucleus where previously much had been a chaos of unrelated facts. His classification of the relation between the different forms of division of the cell nucleus helped to establish the science of nuclear cytology. Thanks to his brilliant work it became possible to teach nuclear cytology as a scientific sub-discipline of biology.

Darlington was the author of several seminal books, including in 1939 *The Evolution of Genetic Systems*. His work laid the foundation for the integration of cytology and genetics at the population and evolution level. He saw clearly the significance of adaptability as well as adaptation, and the sense in which the needs of individuals and populations must be compromised if the species is to survive.

He became director of the Innes institute in 1939 and remained there until 1953 when he accepted the Sherardian professorship of botany in Oxford University. As a member of the Rationalists, he became something of a cult figure in the 1930s. He was signatory to a proposal published in the *Times* in the 1940s that comparative religion should be taught in state schools.

Perhaps above all, Darlington will be remembered as a synthesiser of biological ideas. He was a provocative speaker and writer. Increasingly he became interested in the role of genetic variation in human affairs, culminating in 1969 with his magnum opus *The Evolution of Man and Society*. He was an admirer of Charles Darwin and, just as with the *Origin of Species*, C. D. Darlington's own book was to prove "all things to all people".

The reviews ranged from those that likened him to the general historians,



Professor Darlington

such as H. G. Wells, to those who condemned what they saw as his irresponsibility in giving support to the proponents of apartheid. Even before his book was published, established scientists were speaking out against his views. Sir Peter Medawar was once heard to joke that Darlington was fast becoming the nearest thing Britain had to Trofim Lysenko.

Although Darlington took an open interest in Soviet science and the plight of dissident scientists in the USSR, his views on the notorious Lysenko, who ruled supreme in Soviet biology (especially in genetics) under Joseph Stalin and Nikita Khrushchev, were unequivocal. In reviewing Zhores Med-

vedev's book on Trofim Lysenko, Darlington referred to the "long display of faked experiments and theoretical fantasies of Lysenko". Lysenko dreamed of, and campaigned for, hybridising the potato and the tomato to solve part of the Russian food problem. Darlington believed that a hybridisation of Black and White races would be the saving of much of mankind. "They must unlearn their stereotyped formulae, and learn instead those biological rules to which all societies are subject." □

Quote unquote

THE INSTINCT for collecting, which began as in other animals as an adaptive property, could always in man spread beyond reason; it could become a hoarding mania. But in its normal form it provides a means of livelihood at the hunting and collecting stage of human evolution. It is then attached to a variety of rational aptitudes, above all in observing, classifying, and naming plants, animals and minerals, skills diversely displayed by primitive peoples. These skills with an instinctive beginning were the foundation of most of the civilised arts and sciences. Attached to other skills in advanced societies they promote the formation of museums and libraries; detached, they lead to acquisition and classification by eccentric individuals, often without any purpose or value at all.

C. D. Darlington in *The Little Universe of Man* (1978).

20 YEARS AGO

Scientists tolerate 'Needles'—for the time being

THE AMERICANS are going ahead with Project Needles. This is a communications experiment, in which the Earth will be encircled by a belt of copper needles in orbit over the poles at a height of a few thousand kilometres. When the scheme was described at the meeting of the International Scientific Radio Union (URSI) in September, there was some opposition to the scheme, particularly from radio astronomers. However, the intention to proceed with the experiment is announced in the United States report to the international Committee on Space Research (COSPAR) at its meeting in Florence last week.

The needles will be 2 cm long and 0.0025 cm in diameter, capable of reflecting very short radio waves from a transmitter to a receiver thousands of miles away. Thirty-five kilograms of the needles will be released in orbit, and over a period of two months they are expected to spread to form a belt about 8 km wide and about 40 km thick around the Earth.

At the URSI meeting, the representative of the Lincoln Laboratory of the Massachusetts Institute of Technology, which is responsible for the proposal

and its execution, went to considerable lengths to allay fears that the presence of the needles in the sky would interfere with radio and optical observations of the Universe and of space craft, or that there would be unwanted reflections of radar beams from the belt. Scientists in the United States appear to have been convinced by the Lincoln computations and experiments on the probable effects: a committee of astronomers has very recently reported to the US National Academy of Sciences' Space Science Board that the belt will be barely detectable by either optical or radio astronomical methods, and interference with astronomical observations will be negligible.

There has, nevertheless, been an interesting change in the scheme, as a result of the investigations. At URSI, Lincoln Laboratory played what it thought was a trump card, saying that by making the needles of tin alloy it could arrange for them to crumble after some selected interval. It turned out that to do so would have made the needles ten times more objectionable to the optical astronomers. Hence the decision to use copper.

There remains concern among some scientists, harmless as the first experiment may be, about what may ensue if it is successful and there is a move to create more substantial and permanent needle belts about the Earth; the consequences, they think, may cease to be negligible.

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Collector's item

This must be the most bizarre design for a tie. The suggestion for a logo to symbolise the work of the Home Office's Scientific Advisers in civil defence came from R. M. Longden-Thurgood of Cumbria. Recognise the atomic plume rising gracefully toward the knot of the tie? See the spreading radiation stretching down menacingly toward the waistcoat? What fun . . . □